Mountain Plover General Information
Arizona Ecological Services Field Office

Introduction

In Arizona, Mountain Plovers are considered rare to uncommon and very local fall and winter residents (Corman 2005). The estimated breeding population is very small, with four breeding pairs observed in Apache County in eastern Arizona and an additional pair suspected to be breeding in Navajo County in northern Arizona. However, there are hundreds of square miles of potential breeding habitat to the north and west of the town of Springerville and on the Navajo Nation lands in Navajo County for which we have no survey data, primarily because the land is in tribal or private ownership. Specific breeding sites are typically in or near extensively overgrazed and/or trampled areas often near windmills, corrals and man-made livestock watering areas. Some are also in or adjacent to Gunnison's prairie-dog colonies (Corman 2010). Data regarding nesting, hatching, and fledgling success and survival of adults and juveniles are not known.

Wintering Mountain Plovers are more numerous and generally seen at three localities: 1) south of the City of Yuma, 2) Santa Cruz Flats and Friendly Corners areas, located south of Casa Grande and west of Interstate 10, and 3) the Sulphur Springs Valley, south of Wilcox in southeastern Arizona. These areas host several large-scale commercial agriculture farms and sod/turf farms which provide suitable, winter habitat for the Mountain Plovers. Casual observations made by birders at these three areas described the Mountain Plovers occurring in small flocks ranging from 15 to over 120 individuals in the middle of dry, plowed or recently tilled agricultural fields, foraging under center-pivot irrigation sprinklers, on bare ground interspersed with short vegetation, or on newly emerging hay fields. Other noteworthy Mountain Plover observations occurred between 1967 and 1981 near Gila Bend in Maricopa County. During these years, Mountain Plovers were consistently sighted annually in number ranging from 31 to 340 from January to March in agricultural fields along the Painted Rock Dam Road, which provides access to the Painted Rock Reservoir. However, since 1981, no observations for the species have been reported in this area.

Distribution or Range

The range of Mountain Plovers in Arizona includes portions of Apache, Cochise, La Paz, Maricopa, Mojave, Navajo, Pima, Pinal, and Yuma counties where suitable habitat exists. Elevation within suitable habitat ranges from 135 feet below sea level to 7,000 feet. The biotic community consists of Sonoroan desertscrub, semi-desert grasslands, Pinyon-juniper, and ponderosa pine.

Summary of observations of individual Mountain Plovers by county.

Refer to the attached *Mountain Plover records for Arizona* document, submitted by Arizona Game and Fish Department for more detail. These numbers are based on casual observations compiled by birders and posted to the Arizona Field Ornithology list-serv, the Southwest Birders website, Tucson Audubon, and North American Birds, published by the American Birding Association.

County	No. Individuals Observed 1900-1999	No. Individuals Observed 2000- Present	Land Ownership
Apache	1-15 (incl.1 presumed pair)	11 (incl.4 pairs)	Private, state, tribal
Cochise	1-212	1-50	Private
La Paz	50-82	41	Tribal
Maricopa	1-340	36	Federal, private, tribal
Mohave	Unknown	----	----
Navajo	2 (presumed pair)	----	Tribal
Pima	1-14	2	Private
Pinal	4-93	1-125	Private, tribal
Yuma	40-100	9-300	Private

Breeding population

Nesting first suspected when small flocks were observed in August 1914 northeast of Springerville, Apache County, Arizona (Phillips et al., 1983) then again in June 1978 when a nest with eggs was found in western New Mexico, only 7 miles from the Arizona border and 23 miles from Springerville. Breeding was finally confirmed in Arizona during the late spring of 1996 when specific surveys conducted northwest of Springerville discovered an adult on a nest with 3 eggs (Corman 2005). Surveyors also observed fourteen adult Mountain Plovers foraging in heavily grazed areas dominated by a mosaic of bare earth, gravel, and short hummocks of blue grama (Corman 2005) at a windmill just north of the nest, on the 26 Bar Ranch, northeast of U.S. Highway 666, and by the Springerville airport (USFWS files).

Observations by BLM staff on May 16 and 21st of 2002 confirmed the presence of three individual Mountain Plovers west of Springerville near the area where the 1996 nest was documented. An email from BLM staff stated that three birds were observed at a corral/water tank complex within recently burned blue grama (*Bouteloua gracilis*) grasslands. Other noted species in the vicinity were Western burrowing owls (*Athene cunicularia hypugaea*) and prairie dogs, likely Gunnison's prairie dogs (*Cynomys gunnisoni*) (USFWS files). BLM staff revisited the area on May 21, 2002 and observed two of the Mountain Plovers engaged in a kind of aerial display, but no breeding was documented. A single Mountain Plover was observed later the same day in the bare ground tire ruts at a corral (USFWS files). In 2006, four pairs of Mountain Plovers and 3 single adults were observed in association to four Gunnison prairie dogs in northwest Arizona near Springerville. Three nesting attempts were confirmed with one plover pair producing two fledglings.

The short-grass prairie habitat northwest of Springerville is the only known consistent Mountain Plover breeding area in Arizona with birds arriving in late March or early April and remaining until July or August. The area is characterized by flat topography with gentle rolling hills and outcrops up to 7,000 feet in elevation. In 1996, land ownership where nesting was documented was reported as mostly State land leased to the 26 Bar ranch with a portion of the ranch also privately owned. As of 1997, the ranch is owned by the Hopi Indian tribe. The 26 Bar ranch is located in and around the towns of Springerville and Eagar in northeastern Arizona, near the

New Mexico border. Historically, the ranch was a Hereford cattle ranch owned by John Wayne and his partner Louie Johnson from 1940 until 1980. It was sold in 1997 to a private owner then purchased by the current owners in 1997. The ranch remains a working cattle ranch with a bed and breakfast in the original ranch buildings. The 26 Bar ranch is on approximately 58,000 acres consisting of mixed conifer vegetation interspersed with grassland meadows at an elevation ranging from 7,000 to 9,500 feet (Naylor 2008).

Nesting is also suspected in Navajo County on Navajo tribal lands after two adult Mountain Plovers were observed in the area between Dilkon and Winslow on June 14, 1995, at an elevation of 5360 feet (Corman 2005). However, no nesting has been confirmed. Potential habitat may exist within the Navajo Nation on the grasslands between the Chuska Mountains and Black Mesa and southwest of Black Mesa to the Little Colorado River (Mikesic 2008).

Wintering population

Wintering plovers are found primarily in agricultural areas of southern and western Arizona and these areas appear to be consistently visited each year. Typical wintering habitat are sod farms, recently cut alfalfa lands and relatively flat fallow fields with little vegetation and lacking much in the way of dirt furrows. Only the habitat provided by the sod farms remains somewhat stable with little changes from one year to the next, allowing fields to become more consistent wintering sites. Some plovers begin to arrive or migrate through this region of the state in early August and September with numbers slowly building through November and even December. Peak numbers are typically noted in December and January with most leaving the wintering areas by mid-March. Due to their cryptic coloration and passive behavior, Mountain Plovers are often difficult to detect and easily missed. Also with private property and tribal access limitations, there are extensive agricultural areas in southern and western Arizona that are not visited during the winter. These uncharted agricultural lands likely harbor many more wintering plover flocks (Corman 2010). There are no known conservation programs that have been developed for the species in Arizona but the potential for future research exists.

General habitat descriptions for specific localities

<u>Cochise County</u>

The Sulphur Springs Valley is located west of the Chiricahua Mountains and south of the town of Wilcox. Habitat in the area varies from semi-desert grasslands to Upland Sonora desert vegetation. Within the Sulphur Springs Valley is an agricultural community called the Kansas Settlement, named for settlers from the mid-west that established small farms in the early 1900s. Elevation ranges from 4,160 to 4,870 feet. The Sulphur Springs Valley consists of approximately 25,810 acres of farmland with an average farm roughly 1,020 acres in size. Surrounding the area, are the towns of Wilcox to the north and Elfrida to the south, the Dragoon Mountains to the west and the Chiricahua Mountains to the east.

Maricopa County

Wintering Mountain Plovers have been observed in two disjunct areas located in central and southeastern Maricopa County. The first area is the Paloma Ranch near Gila Bend, approximately 70 miles southwest of Phoenix and along Painted Rock Dam Road, which runs parallel to the ranch. Paloma Ranch was a family-owned ranch consisting of 68,000 acres used to grow cotton, wheat, and alfalfa. As of 2001, the property was subdivided and parcels were sold for use as a dairy, a tree nursery, two power plants, two water-ski parks and a mixed-use development with residential and commercial proposals (Padgett 2002). Paloma Ranch continues to be visited by bird observers but no additional sightings for Mountain Plovers have occurred here since 2003. Mountain Plovers have been observed in the east valley in the middle of sod farms located near the town of Queen Creek and in Scottsdale. Both are privately owned are surrounded by residential communities, city parks, and dairy farms with some fields bordering Indian reservations.

Pinal

Santa Cruz Flats is located along the basin of the Santa Cruz River, which flows northwest across the county towards the Gila River, the area encompasses approximately 350 square miles and has an average elevation of 1,700 feet. The Mountain Plovers are observed among privately-owned sod farms consisting of over 1,000 acres. Urban development has been encroaching in the area as Pinal County is predicted to become an extension of the Phoenix and Tucson regions thus creating a mega corridor connecting northern and southern Arizona.

Yuma County

Plovers are typically observed south of the City of Yuma in two places, on large commercial, circular agricultural fields that are dry and left fallow and fields that have just been plowed and watered (H. Detwiler, Southwest Birders, pers. comm. 2009). The area supports a variety of vegetable, fruit, and field crops (cotton, alfalfa, Bermuda, wheat, and other grains). The plovers are generally observed foraging in alfalfa or grass fields, those growing Bermuda or Sudan grass, which have been recently harvested and grazed by sheep. The dry fallow fields appear to closely resemble their breeding habitat although no breeding has been recorded here (H. Detwiler, Southwest Birders, pers. comm. 2009).

Prior to 1991, Mountain Plovers were considered irregular winter migrants, appearing in small flocks between mid-October and late March in agricultural areas near Parker, Blythe, and Yuma. The maximum number observed was 205 in December 1, 1981 in Blythe. It was reported that some flocks would appear in February in areas where they were not observed previously and remain there through March. Since these dates corresponded with the dates that Mountain Plovers left the Imperial Valley, California, that it was believed that the plovers used the agricultural fields in Arizona as regular stopovers as they migrated north along the Colorado River to breeding grounds (Rosenberg et al. 1991). Since 1993 to the present, Mountain Plovers are repeatedly observed in the agricultural fields usually between December and January.

Yuma has a year-round population of 135,000 and in the winter, it increases to approximately 80,000 “winter” visitors (refer to http://www.co.yuma.az.us/index.aspx?page=542). The area supporting wintering Mountain Plovers is approximately 5,100 acreas. The land is leased from the State of Arizona for a 10 year term.

Threats

We do not have enough information to adequately assess threats to the species and its habitat. We are in the planning stages of a proposed solar power generating facility near the town of Gila Bend. The project is expected to be located on 3,000 acres of irrigated alfalfa farmlands along Painted Rock Dam Road, an area where the Mountain Plovers have been observed. The project is still in the early planning phases and not all details have been released. However, based upon the population and economic growth in Arizona, it is likely that threats to the species habitat from agricultural lands being converted for development purposes and/or farmers changing the type of crop being grown likely contribute to the fluctuation in the number of wintering Mountain Plovers among counties.

Between 2000 and 2006, Maricopa County was ranked the fourth largest county in the nation (Burstein 2007). Its population is currently 3.9 million people and this is expected to increase to 6.1 million by 2020. Not surprisingly, between 2005 and 2008, 140,000 residential units (i.e., apartments, condos/townhomes, single family homes) were constructed around the county expanding south into Pinal County (MAG 2008; US Census Bureau 2007a). Thus, new housing construction in Pinal County grew by 16.6% between 2005 and 2006, becoming the leading county in the nation with the highest growth rate in housing units (US Census Bureau 2007b). This rate has slowed down following the recession but growth in Pinal County is expected to pick up in the future with the county becoming one of twenty "megapolitan" areas (e.g., areas where the majority of growth will occur) (Pinal County Government 2010). The impacts of urban expansion on agricultural land in Maricopa County have led to a decline in the number of farms and the amount of farm acres (USDA 2007). Distressed farmers that owned land in open areas attractive to urban growth and development sold their land and relocated to Yuma or Cochise Counties and purchased farmlands there (Blake 2009). Farmlands that are located on the outskirts of towns in rural areas are surrounded by development or will be in the future. Data obtained from the USDA Census of Agriculture reports that Maricopa County had 983 farms in 2007 of which, 289,700 acres of land were in irrigated farms as compared to 2002 with 1,344 farms and 434,809 acres of land in irrigated farms (USDA 2007). Given the current and projected population growth, urban expansion, isolated parcels of agricultural lands interspersed within develop communities, conversion of agricultural lands to development, these all likely diminish the suitability of wintering habitat for the Mountain Plover or potentially impede the expansion of the wintering population in Maricopa and potentially Pinal County.

The situation is somewhat similar for Yuma County. According to the U.S. Census Bureau, from 1990 to 2000, the population in the City of Yuma increased 49.7% and between 2000 and 2008, the population grew another 21.4%. In addition, between 2007 and 2008, the amount of acres used to grow vegetables declined approximately 40% as a result of a market oversupply of vegetables, concerns about labor availability, and increased plantings of grain (Blake 2009). Thus, some farmers have opted to sell their land to housing developers while other farmers have decided to switch from growing vegetables to growing wheat, alfalfa, or sourghum which may yield higher prices then vegetables (Blake 2009). The fields where Mountain Plovers frequent are State lands leased to private owners. Currently, these fields are for sale (Headquarters West, Ltd. 2010).

Cochise County has grown more moderately than Maricopa and Pinal, at approximately 14.8% since 2000, remaining primarily a rural community. In 2007, Cochise County had 368 farms with 208,991 acres of land in irrigated farms, a slight decrease of 2002 with 460 farms and 223,678 acres of land in irrigated farms. Based on Cochise County's Comprehensive Plan and Land Use Survey, residents prefer to maintain the rural community and lifestyle (refer to: http://cochise.az.gov/cochise_planning_zoning.aspx?id=1212Cochhise County). The development of alternative energy is being encouraged but no projects have been planned for the area.

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